

**SITUATION REPORT
INCIDENT COMMAND POST GOLD KING
GOLD KING MINE RELEASE INCIDENT
U.S. ENVIRONMENTAL PROTECTION AGENCY**



Construction activities on water treatment system and tiered solid dewatering pad (15 October 2015)

Subject: EXECSUM / SITREP #46
Gold King Mine Release Incident
San Juan County, Colorado
Latitude: 37.8945 Longitude: -107.6384

From: Situation Unit, Incident Command Post Gold King
Date: 20 October 2015
Reporting Period: 0700 13 October 2015 through 0700 20 October 2015
Website: www.epa.gov/goldkingmine



For Internal Use Only

EXECUTIVE SUMMARY

Situation Summary

United States Environmental Protection Agency (U.S. EPA) Incident Command Post Gold King (ICPGK) is comprised of U.S. EPA Regions 8, 6 and 9.

Highlights, Key Updates/Changes

- ICPGK is operating under a 2-week Incident Action Plan (IAP) covering the period of 06 October 2015 through 20 October 2015.
- Incident Command (IC) ended outreach with private well owners after 30 September 2015.
- ICPGK continues to focus on residential sampling data reviews and sending letters to residents.

Objectives

- Ensure health and safety of the public and responders.
- Continue private water deliveries to homes with Primary MCL Exceedances.
- Continue private well sampling for special cases only (one new request was received on 13 October 2015). This well was sampled on 14 October 2015.
- Continue to facilitate transition of cooperative agreements between San Juan Basin Health Department (SJBHD), Colorado Department of Public Health and Environment (CDPHE), and Colorado Office of Emergency Management (OEM) to EPA Region 8.
- Continue to implement Transition Plan to return operations to EPA Region 8. The ICPGK Durango facility will be closed as of Friday, 23 October 2015.
- Continue coordination with federal, state, tribal and local stakeholders.
- The final round of sampling in Region 8 was completed in accordance with the Transition Plan on 13 October 2015. Future sampling activities will be completed in accordance with the Long-term Monitoring Plan.
- Mine Operations
 - Continue management of mine water discharge.
 - Completed installation of the modular water treatment system and tiered solid de-watering pad. System was put into operation on 18 October 2015 and is currently operating 24 hours per day.
 - As part of system testing and calibration, discharge rates to the water treatment system have been varied by adding additional water stored in ponds to the treatment system. So far, the system has been tested at flow rates ranging from approximately 200 gpm to 800 gpm.
 - System adjustments and equipment testing will likely continue for another week to optimize system operation.
 - Winterization activities on the treatment system are in progress. Once winterization of the system is complete in approximately mid-November 2015, mine operations will transition to a winter operations period. Follow up actions to be conducted in the Spring will be determined over the winter during the system operation period.



- The notification process associated with the Alert and Notification Plan has been revised so that future calls will be received and managed by the EPA Region 8 24/7 Response Line.

Command Emphasis

For this operational period, the ICPGK command emphasis is:

- Safety of responders and the public
- Visitors to the mine site are required to go through a safety briefing. See Mine Site Safety Plan.
- Personnel entering Southern Ute Tribal lands must be escorted by a Southern Ute staff member.
- Ensure information flow between ICP and Stakeholders is transparent.
- Continue to implement Transition Plan to return operations to EPA Region 8. The ICPGK Durango facility will be closed as of Friday, 23 October 2015.

The metrics provided in this Situation Report represent quantities reported for work completed from 0700 13 October 2015 through 0700 20 October 2015. Press releases are presented in Attachment 1.



1.0 BACKGROUND

The Gold King Mine (GKM) near Silverton, Colorado is an historic gold mine at an elevation of approximately 11,300 feet above mean sea level. The mine discharge includes acidic mine drainage that is a contributor of heavy metals into the Cement Creek drainage of the Animas River watershed. The GKM workings have been inaccessible since 1995 when the mine portal collapsed.

On 5 August 2015, up to three million gallons (estimated) of water containing sediment and dissolved metals was suddenly released from the Gold King Mine adit. This water discharged into Cement Creek which feeds into the Animas River, and eventually flows into the San Juan River.

The ICPGK (located in Durango, Colorado) continues to assess and mitigate effects from the release.

2.0 OPERATIONS

2.1 Mine Operations

A summary of mine operations is presented below.

- Starting 08 October 2015, water flowing from the GKM portal was being captured by a cofferdam inside the mine and mechanically pumped down from the mine site.

Table 1 – Discharge Summary

Table 1 – Discharge Summary									
Parameter	Units	Quantity							Period Average
		October 2015							
		13	14	15	16	17	18	19	
Flow Rate*	gpm	556	350	*NR	*NR	*NR	*NR	*NR	*NR
pH Adit Discharge	SU	3.77	4.12	3.85	3.86	3.86	*NR	*NR	*NR
pH Discharge to creek	SU	5.57	5.13	5.09	5.38	5.38	*NR	*NR	*NR

*Note: Due to pumping at the Gold King Mine, fluctuations in GPM, and bringing the water treatment system online, pumping rates and/or pH readings were not reported (NR).

- As of 15 October 2015, water from Gold King Mine was being routed directly to Gladstone.
- On 17 October 2015, water flow commenced from Gladstone to the water treatment system.
- As of 18 October 2015, the water treatment system was reported as being fully operational. Additionally, the tiered solid dewatering pad (Geotube Area) was operational.



Construction activities at Gladstone tiered solid dewatering pad. First row of Geotubes visible on upper tier of dewatering pad (15 October 2015).



- System is currently operating 24 hours per day. As part of system testing and calibration, discharge rates to the water treatment system have been varied by adding additional water stored in ponds to the treatment system. So far, the system has been tested at flow rates ranging from approximately 200 gpm to 800 gpm.
- System calibration and equipment testing will likely continue for another week to optimize system operation.
- Winterization of the treatment system is currently in progress. Winterization will continue until approximately mid-November 2015.
- Mucking out of the first 55 feet of the Gold King Mine adit is largely complete.
- START personnel are conducting periodic pH readings to monitor treatment operations at pond discharge locations and at 250 ft upstream of the confluence of the South Fork of Cement Creek (CC20).

2.2 River Sampling

Operational activities for surface water and sediment sampling are summarized below. Sample quantities are based on the SCRIBE database, and include field samples and quality assurance/quality control (QA/QC) samples. On 13 October 2015, the final round of surface water and sediment sampling was completed according to the Interim Demobilization Plan. Future sampling activities will be completed according to the Long-Term Monitoring Plan.

Table 2 - Operations Sampling Summary									
Matrix	U.S. EPA Region	Quantity							
		October 2015							Cumulative
		13	14	15	16	17	18	19	
Surface Water Samples	8	8	0	2	0	0	0	0	673
	6	0	9	0	0	0	0	0	561
	9	0	0	0	0	0	0	0	292
	Total	8	9	0	0	0	0	0	1,526
Sediment Samples	8	9	0	0	0	0	0	0	349
	6	0	9	0	0	0	0	0	553
	9	0	0	0	0	0	0	0	238
	Total	9	9	0	0	0	0	0	1,140

2.3 Private Well Sampling

U.S. EPA has collected and analyzed samples from drinking water wells located near the Animas River and San Juan River. There has been no sampling of private drinking water wells in U.S. EPA Region 9.

Private well samples that have metals concentrations greater than the Maximum Contaminant Levels (MCLs) and were collected from private drinking water wells during the first sampling event were sampled a second time to confirm the analytical results. In Region 8, the second round of samples at a given property were collected from the tap. Residents that have MCL exceedances have been notified.

A summary of private drinking water well sampling is presented below.



Table 3 – Private Drinking Water Well Sampling Summary									
Matrix	U.S. EPA Region	Quantity							
		October 2015							Cumulative
		13	14	15	16	17	18	19	
Private Drinking Water Well Samples Collected (from SCRIBE, includes QA/QC samples)	8	0	2	0	0	0	0	0	449
	6	19	0	0	0	0	0	0	309

Notes: Some residents were sent multiple results letters
Some residential sampling included surface water and/or sediment sampling.

Table 4- Summary of Wells with MCL Exceedances		
Matrix	U.S. EPA Region	Cumulative
Wells containing contaminant concentrations above MCLs during second sampling event	8	4
	6	1*

*Note: One well in Region 6 exceeded the MCL for lead and after further assessment by the State of New Mexico and the U.S. EPA, it was determined that the exceedance was not related to the GKM incident.

2.4 Mitigation Activities

No public water systems are currently affected by the release or response operations. ICPGK continues to coordinate and deliver bottled drinking water to 4 residences in Region 8. Other public support activities completed are summarized below.

Table 5 – Completed Public Support (Cumulative)			
Activity	U.S. EPA Region	Qty. (gal)	Qty. (hay bales)
Potable Water Deliveries	8	105,600	
Livestock / Agricultural Water Deliveries	8	133,770	
	6	1,104,990	
Agricultural Food Deliveries	6		244

During the previous reporting period, US EPA Region 9 was scheduled to deliver 500 salt blocks to the Navajo Nation's Shiprock Chapter's Maintenance Center for distribution to ranchers and farmers. However, to date, completion of that delivery has not been confirmed. No additional agricultural food, water, or salt block deliveries are currently scheduled for Navajo Nation.

Ongoing public support activities are summarized below:

Table 6 – Ongoing Public Support									
Activity	Entity	13 Oct – 20 Oct 2015						Cumulative	
		Deliveries (each)	Qty. (gal)	Qty. (hay bales)	Qty. (salt blocks)	Deliveries (each)	Qty. (gal)	Qty. (hay bales)	Qty. (salt blocks)
Livestock / Agricultural Water Deliveries	U.S. EPA R9	0	0			13	218,400		
	BIA	0	0			7	975,888		
Agricultural Food Deliveries	U.S EPA R9	0		0		22		8,448	



2.4.1 Water Tanks

On or about 15 August 2015, 15 black steel tanks (16,500 gallon capacity each) were delivered by the ERRS contractor to certain locations on the Navajo Reservation as part of the response to the Gold King Mine release incident. All 15 of the water tanks have been removed from the Navajo Reservation.

2.4.2 Other Mitigation Activities

No other activities reported.

3.0 PLANNING

The Planning Section Chief position at ICPGK was transferred off-site as of 16 October 2015.

3.1 Environmental Unit

EU is preparing letters containing analytical results for private properties where U.S. EPA collected sediment and/or drinking water samples. Additional resources were added to the ICP EU to address this task. A summary of private letters sent to date is provided below:

Table 7- Private Letter Summary as of 19 October 2015			
Approximate Total Number of Letters to be Sent	Letters Sent Prior to This Reporting Period	Letters Sent During This Reporting Period	Approximate Number of Remaining Letters to be Sent
431	418	10	3

3.2 Resources

The table below summarizes staffing numbers for the federal entities and agencies active in the response.

Table 8 - Personnel On-Site								
Location	Agency / Entity	October 2015						
		13	14	15	16	17	18	19
Mine	U.S. EPA	1	2	3	2	2	2	2
	USCG	5	7	5	5	5	4	3
	U.S. EPA Contractors	38	45	36	30	26	7	25
	Other	0	0	0	0	0	0	0
ICPGK	U.S. EPA	6	5	5	4	2	2	2
	USCG	0	0	0	0	0	0	0
	U.S. EPA Contractors	12	12	8	7	1	0	0
	Other	0	0	0	0	0	0	0
U.S. EPA Region 6	U.S. EPA	1	1	0	0	0	0	0
	USCG	0	0	0	0	0	0	0
	U.S. EPA Contractors	2	2	0	0	0	0	0
	Other	0	0	0	0	0	0	0
U.S. EPA Region 9	U.S. EPA	0	0	0	0	0	0	0
	USCG	0	0	0	0	0	0	0
	U.S. EPA Contractors	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0
Total		62	74	57	48	36	15	32

USCG = U.S. Coast Guard; Other = federal, state, local and tribal entities



4.0 FINANCE

4.1 Estimated Response Costs to Date

The Finance Officer position at ICPGK was transferred to the EPA Region 8 Denver office as of 13 October 2015. The table below summarizes estimated costs for the response.

Table 9 - Estimated Response Costs Reported as of 19 October 2015					
U.S. EPA Region	U.S. EPA Cumulative Expended Payroll	U.S. EPA Cumulative Expended Travel	U.S. EPA Cumulative Other Charges	U.S. EPA Cumulative Contractors Cost	Total Cumulative Costs
8	\$1,156,702	\$287,991	\$46,109	\$7,654,285	\$9,145,087
6	\$612,983	\$152,350	\$12,989	\$2,623,463	\$3,401,785
9	\$282,855	\$72,661	\$0	\$2,442,671	\$2,798,187
Total	\$2,052,540	\$513,002	\$59,098	\$12,720,419	\$15,345,059

4.2 Estimated Burn Rates

The table below summarizes current estimated burn rates for the response.

Table 10 - Estimated Daily Burn Rates as of 19 October 2015	
U.S. EPA Region	Estimated Average Daily Burn Rate
8	\$78,100
6	\$2,500
9	\$8,920
Total	\$89,520

5.0 LOGISTICS

Logistics continued to facilitate demobilization of the ICPGK facility in Durango, Colorado during this reporting period. EPA contractors working out of the ICPGK facility completed their demobilization activities during this operating period. ICPGK will be closed as of Friday, 23 October 2015.

6.0 SAFETY

The Safety Officer position at ICPGK was transferred to Operations as of 11 October 2015.

No recordable injuries or illnesses were reported during this operational period.

7.0 PUBLIC INFORMATION

7.1 Community Engagements and Public Events

Community engagements and public events that occurred during this period included:

- A tour of Mine Area by County Representatives was completed on 15 October 2015.
- A media Tour of Gladstone Area by local TV Station and Colorado Public Radio was completed on 15 October 2015.

A summary of community engagements is provided below:



Table 11 – Community Engagement Summary								
Description	U.S. EPA Region	October 2015						
		13	14	15	16	17	18	19
Community Engagement	8	0	0	2	0	0	0	0
	6	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0

7.2 VIPs/Congressional Visits

7.2.1 Occurred Events

Visits that occurred during this period include:

- Visit by EPA Region 9 PIO on 15 October 2015.

7.2.2 Anticipated Events

Known site visits and public events scheduled for the next 14 days are summarized below.

Table 12 - Anticipated Site Visits and Public Events Summary	
Planned Event	Anticipated Date
Animas River Stakeholders Meeting	27 OCT 2015

7.3 Call Center

U.S. EPA Headquarters continues to operate a national call center (844-607-9700). Calls received requesting sampling of private drinking water wells were forwarded to ICPGK Operations via the PIO.

8.0 LIAISON

Federal, regional, local and other entities participating in the response are summarized below.

U.S. EPA
U.S. Coast Guard (USCG)
U.S. Geological Survey (USGS)
U.S. Army Corps of Engineers (USACE)
U.S. Bureau of Reclamation (USBOR)
U.S. Fish and Wildlife Services (USFWS)
Colorado Office of Emergency Management (OEM)
Colorado Department of Public Health and Environment (CDPHE)
New Mexico Environment Department (NMED)
New Mexico (NM) Department of Health
NM Office of the State Engineer
NM Department of Game and Fish
State of Utah
State of Arizona
City of Durango
La Plata County
San Juan County
San Juan Basin Health Department
County of San Juan – New Mexico



Southern Ute Indian Tribe (SUIT)
Navajo Nation

9.0 SOURCE OF ADDITIONAL INFORMATION

For additional information, refer to www.epa.gov/goldkingmine.



**ATTACHMENT 1
PRESS RELEASES**



PRESS RELEASE #1

October 13, 2015

Water Storage Tank Sampling Report

The U.S. Environmental Protection Agency (EPA) is posting analytical results of water samples taken from emergency water tanks deployed to the Navajo Nation for livestock following the August 5 Gold King Mine release. The samples met all applicable EPA standards and Navajo Nation standards for irrigation and livestock consumption. The results are consistent with those reported by the Navajo Nation to EPA on September 2, 2015.

EPA contractors inspected the tanks and took water samples on September 3. The inspection noted an oil residue in the vicinity of tank #31L's ladder and on the threads at the base of the overflow pipe, which is used to manage tank overtops and does not backflow into the tank or connect to the water distribution valve. The sample results confirm that water inside tank #31L met applicable standards for irrigation and livestock.

View the sampling results below:

You will need Adobe Reader to view some of the files on this page. See [EPA's About PDF page](#) to learn more.



PRESS RELEASE #2

Gold King Mine Data, October 14, 2015

[Free viewers may be needed to access information linked on this page.](#)

Data from Gold King Mine Response

Surface water and sediment concentrations are now below recreational screening levels. The river system as a whole is being maintained at pre-event conditions.

It is important to keep in mind that metal concentrations in water and sediment may fluctuate.

Fluctuations occur because of weather and other events that change water flow rates or volume. They can also occur if sediments are accumulating at a higher than normal rate at a particular site, before being washed away by the next high water event.

As the response to the mine release transitions to long-term evaluations, EPA will continue to monitor for any abnormal occurrences of metal concentration exceedances of risk-based screening levels.

EPA surface water and sediment samples collected on 9/30 and 10/1 from locations along the Animas River in New Mexico.

- Open or download the data file: [Region 6 Sediment Summary Table 10052015 \(XLSX\)](#)(1 pg, 32 K)

Open or download the data file: [Region 6 Surface Water Summary Table10082015 \(XLSX\)](#)(1 pg, 54 K)



PRESS RELEASE #3

Gold King Mine Data, October 19, 2015

[Free viewers may be needed to access information linked on this page.](#)

Data from Gold King Mine Response

Surface water and sediment concentrations are now below recreational screening levels. The river system as a whole is being maintained at pre-event conditions.

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As the response to the mine release transitions to long-term evaluations, EPA will continue to monitor for any abnormal occurrences of metal concentration exceedances of risk-based screening levels.

EPA surface water samples collected on 9/28 from locations along the Animas River in Colorado.

Open or download the data file: [Region 8 Surface Water Summary Table 10152015 \(XLSX\)](#)(1 pg, 51 K)



PRESS RELEASE #4

Gold King Mine Data, October 19, 2015

[Free viewers may be needed to access information linked on this page.](#)

Data from Gold King Mine Response

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EPA surface water samples collected on 9/28 from locations along the Animas River in Colorado.

Open or download the data file: [Region 8 Surface Water Summary Table 10152015 \(XLSX\)](#)(1 pg, 51 K)